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Attn: Examiner Andrew D. Wright  
Group Art Unit 3617

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Docket No. **58584.US / 1458.7** Date: **AUGUST 31, 2005**  
Application No. **10/699,595**  
Filing Date: **October 31, 2003**  
Applicant: **Howard M. Thomson**  
Title: **CORROSION RESISTANT PRESTRESSED  
CONCRETE FLOAT SYSTEM**

**Enclosures:**

1. APPELLANT'S REPLY BRIEF ON APPEAL including a  
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AUG 31 2005

Application No.10/699,595  
Docket No. 58584.US/1458.7IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: THOMSON, Howard M.  
Serial No.: 10/699,595  
Filed: 10/31/2003  
For: CORROSION RESISTANT PRESTRESSED CONCRETE FLOAT SYSTEM  
Examiner: WRIGHT, Andrew D.  
Group Art Unit: 3617  
Confirmation No. 1884

APPELLANT'S' REPLY BRIEF ON APPEAL

Mail Stop Appeal Brief - Patents  
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Alexandria, VA 22313-1450

Sir:

This reply brief is filed pursuant to 37 C.F.R. 41.41 in response to the Examiner's Answer dated August 10, 2005. It is submitted that this Reply brief complies with 37 CFR 41.37(c).

In the event this brief is not timely filed, Applicant hereby petitions for the appropriate extension of time and request that the fee for the extension along with any other fees which may be due with respect to this paper be charged to our Deposit Account No. 12-2355.

REAL PARTY IN INTEREST

The real party in interest is the Applicant, Howard M. Thomson, 984 Country Club Lane, Jackson, Tennessee 38305.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

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Docket No. 58584.US/1458.7

### STATUS OF CLAIMS

Claims 1-8 as originally filed are pending and appealed.

Claims 1, 4, and 6 are independent claims.

All of the pending claims in the proceeding stand rejected. The claim rejections are as follows:

Claims	Rejection
1, 2, 4, 6-7	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192) and Shorter, Jr. (3,967,569)
3, 5, 8	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569) and Rytand et al. (US 6,450,737).
3, 5, 8	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569) and Robinson (US 6,035,797) (added by the Examiner's Answer).

### STATUS OF AMENDMENTS

No amendments to the claims have been made and no response has been filed subsequent to the Final Office Action dated October 25, 2004. Applicant filed a "Response A" on August 23, 2004, in response to a first Office Action dated May 25, 2004. The Examiner stated in the Final Office Action dated October 25, 2004, that the arguments Appellants presented on 8/23/04 have been fully considered but are not persuasive.

### SUMMARY OF CLAIMED SUBJECT MATTER

Claims 1, 4, and 6 are independent claims.

Independent claim 1, and its dependent claims 2-3, claim corrosion resistant prestressed float systems having one or more float units 10 (See, Fig. 1, FIG. 3).

Independent claim 4, and its dependent claim 5, claims the float unit 10.

Independent claim 6 and its dependent claims 7-8 claim floating dock systems utilizing the corrosion resistant prestressed float units (See, e.g., Figs. 3, 5A, and 5B).

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Claim 1

The float systems of independent claim 1 include:

- one or more float units 10 (all Figs., Specification at page 3 lines 2-19). Each float unit 10 includes:
- a buoyant core 14 encased within a polymeric coating 16. (Specification at page 3, line 12 - page 4, line 5, and Fig. 1).
- concrete 18 encasing the core 14 and polymeric coating 16. (Specification at page 4, lines 11-12, and Fig. 1).
- a corrosion resistant mesh 20 to reinforce the concrete 18. (Specification at page 4, lines 12-17, and Fig. 1), .
- a plurality of corrosion resistant pretensioned fiber members 22 extending the entire length of the unit. (Specification at page 4, line 18 - page 5, line 2, and Fig. 1).

Claim 4

The float unit 10 of claim 4 includes:

- a buoyant core 14 encased within a polymeric coating 16. (Specification at page 3, line 12 - page 4, line 5, and Fig. 1).
- concrete 18 encasing the core 14 and polymeric coating 16. (Specification at page 4, lines 11-12, and Fig. 1).
- a corrosion resistant mesh 20 to reinforce the concrete 18. (Specification at page 4, lines 12-17, and Fig. 1), .
- a plurality of corrosion resistant pretensioned fiber members 22 extending the entire length of the unit. (Specification at page 4, line 18 - page 5, line 2, and Fig. 1).

Claim 6

The floating dock systems (Figs 3 and Figs. 5A-5b, Specification at page 3, lines 5-6 and page 6 at lines 3-8) of independent claim 6 include:

- a plurality of corrosion resistant prestressed float units 10 (all Figs., Specification at page 3 lines 2-19). Each float unit 10 includes:
- a buoyant core 14 encased within a polymeric coating 16. (Specification at page 3, line 12 - page 4, line 5, and Fig. 1).

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- concrete 18 encasing the core 14 and polymeric coating 16. (Specification at page 4, lines 11-12, and Fig. 1).
- a corrosion resistant mesh 20 to reinforce the concrete 18. (Specification at page 4, lines 12-17, and Fig. 1), .
- a plurality of corrosion resistant pretensioned fiber members 22 extending the entire length of the unit. (Specification at page 4, line 18 - page 5, line 2, and Fig. 1).

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The claim rejections to be reviewed on appeal are as follows:

Claims	Rejection
1, 2, 4, 6-7	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192) and Shorter, Jr. (3,967,569)
3, 5, 8	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569) and Rytand et al. (US 6,450,737)
3, 5, 8	35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569) and Robinson (US 6,035,797)

#### ARGUMENT

1. The Section 103 rejection of claims 1, 2, 4, and 6-7 should be reversed.

In the final Office Action, claims 1, 2, 4, and 6-7 were rejected under 35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192) and Shorter, Jr. (3,967,569).

Under 35 U.S.C. 103(a), the Examiner carries the initial burden of establishing a prima facie case of obviousness. In re Pianski, 745 F2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). As part of this, the Examiner must determine whether the differences between the subject matter of the claims and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art."

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The rejection must rest on a factual basis with those facts being interpreted without hindsight reconstruction of the invention from the prior art. See, In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). The Federal Circuit has repeatedly cautioned against employing hindsight by using the applicant's disclosure as a blueprint to reconstruct the claimed invention from the isolated and disconnected teachings of the prior art. See, Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

When, as in this case, the Examiner has selected elements of various teachings in making the rejection, the Board ascertains whether there is any suggestion or motivation in the prior art to make the selection made by the appellants. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the appellants' invention. As in all determinations under 35 U.S.C. §§ 103, the decision maker must bring judgment to bear.

It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the appellants' structure as a template and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby the appellants' combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (citations omitted). That is, something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. See, In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

With respect to the rejection of claims 1, 2, 4, 6-7, the Thomson reference is relied on by the Examiner for teaching the basic structure of a pretensioned concrete float unit featuring a foam core encased in concrete. As set forth in the Examiner's Answer to the Appeal Brief (at Pages 5-6), the Gonzalez reference is relied on by the Examiner for teaching protecting foam from water damage, i.e., that exposure of the foam core to water is detrimental. In the Examiner's Answer, it is stated that the Shorter reference is relied on by the Examiner solely to

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show that concrete in the concrete dock sections is susceptible to cracking and thereby exposing the core to water. (Examiner's Answer at page 5).

The cited Gonzalez reference shows a floatation unit having a concrete channel slab that provides an upper portion of the unit, with a float unit foam float below the slab. The Gonzalez float unit is not of a construction having a foam float or other buoyant core encased in concrete. Rather, as noted at Col. 4, 49-53, the structure is designed to be open to ingress and egress of water.

The Examiner relies on the cited Shorter, Jr reference for teaching that it was known that "cracks may occur in concrete below the waterline," i.e., that concrete in the concrete dock sections is susceptible to cracking and thereby exposing the core to water. Based on this, the Examiner asserts that it would have been obvious to modify the device of Thomson to add the polyethylene coating of Gonzalez around the foam core of the Thomson device. That is, that Gonzalez teaches that exposure of the foam to water is detrimental.

However, Shorter does not attribute any negative to the development of cracks. Rather, Shorter describes that "use of the foam block permits the unit to float even though cracks develop in the concrete below the water line." The Gonzalez float unit is an open unit and does not have a buoyant core encased in concrete.

The Examiner's reliance on the Shorter, Jr. and the Gonzalez references does not establish that one of ordinary skill in the art would view the concrete encased foam structure of Thomson or Shorter, Jr. as requiring any correction or modification. The Gonzalez unit is designed to be open to water and is not a structure involving a concrete encased core. The structure of Shorter, Jr. does involve a concrete encased core, but makes no suggestion of protecting the core, but mentions that it is preferable to use a foam core as opposed to the concrete shell merely being empty, since the foam block permits the unit to float even though cracks develop in the concrete below the water line. Based on the references, one of ordinary skill in the art would not view the concrete encased foam structure of Thomson or Shorter, Jr. as requiring any correction or modification. The mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification obvious unless the desirability of such modification is suggested by the prior art. See, In re Fitch, 23 USPQ2d 1780 (Fed. Cir. 1992).

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In an attempt to buttress his position, the Examiner asserts that the skilled artisan will recognize that cracks in the concrete will lead to exposure of the encased foam to water, and also that this can lead to exposure to acids and corrosives which can attack the foam. See, Final Office Action at page 4. In responding in the Examiner's Answer, the Examiner argues that the Shorter reference supports the common knowledge argument, e.g., that it shows that concrete can crack. However, to reiterate, Shorter makes no suggestion of protecting the core, but mentions that it is preferable to use a foam core as opposed to the concrete shell merely being empty, since the foam block permits the unit to float even though cracks develop in the concrete below the water line. There is no motivation in the cited art to lead one to protect a core encased in concrete.

The Examiner additionally argues in the Examiner's Answer that the Rytand et al. reference (US 6,450,737) teaches that concrete cracks. However, the Examiner is not relying on Rytand et al. in regards to the rejection of claims 1, 2, 4, 6, and 7 (Examiner's Answer at page 6). Furthermore, Rytand et al. does not involve a foam core or the like encased in concrete. The concrete structure of Rytand Et al. has an open bottom and the reference describes providing a protective coating only on an exposed bottom portion 39 of the flotation core 38 (Col. 6). Again, there is no motivation to lead one to protect a core which is encased in concrete.

This reliance on "common knowledge" as to what a skilled artisan might recognize is improper, and the Examiner cannot simply reach conclusions based on his own assessment of what would be basic knowledge. Rather, the Examiner must point to concrete evidence in the record to support his findings. See, In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001), In re Lee, 277 F.3d 1338-1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002), and In re Thrift, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). In this case, the only suggestion for providing the claimed combination comes from the Appellant's own disclosure. Two references which discuss instances of concrete cracking do not provide the necessary motivation to lead one to protect a core encased in concrete as claimed.

It is clear that there must be more than simply itemizing selected elements in the prior art and combining the elements to provide Appellant's invention. As the court stated in Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983), "... virtually all [inventions] are combinations of old elements." Identification of the



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elements in the prior art is not sufficient, however, to negate patentability, otherwise few patents would ever issue.

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." In re Rouffet, 47 USPQ2d 1453, 1457, 1458 (Fed. Cir. 1998). The "... suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness." In re Rouffet, Ibid. at 1458.

2. The Section 103 rejections of claims 3, 5, and 8 should be reversed.

In the final Office Action, claims 3, 5, and 8 were rejected under 35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569), and Rytand et al. (US 6,450,737).

In the Examiner's Answer, claims 3, 5, and 8 were also rejected under 35 U.S.C. 103(a) as unpatentable over Thomson (US 3,799,093) in view of Gonzalez (US 3,779,192), Shorter, Jr. (3,967,569) and Robinson (US 6,035,797).

Claims 3, 5, and 8 are dependent from claims 1, 4, and 6, respectively, and add to claims 1, 4, and 6, respectively, the additional subject matter of a vent extending from the core to an exterior surface of the concrete and in communication with the atmosphere for venting gases from the core to the atmosphere.

The Examiner relies on the Thomson, Gonzalez, and Shorter, Jr. references and the alleged "common knowledge" in the manner set forth in the discussion of claims 1, 2, 4, and 6-7, with regard to claims 3, 5, and 8, but adds onto this the Rytand reference (and alternatively the Robinson reference) in rejecting claims 3, 5, and 8. In regards to the Thomson, Gonzalez, and Shorter, Jr. references and asserted "common knowledge," Applicant references and incorporates the arguments and basis or traversal set forth above in regards to the rejection of claims 3, 5, and 8. Thus, the rejection should be reversed on this basis alone. The disclosures of Rytand et al. and Robinson are not relied on for the underlying rejection but relate only to the

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additional vent limitation of claims 3, 5, and 8. Accordingly, as the underlying rejection is flawed, this carries over to the rejections of the dependent claims.

Moreover, with regard to the Examiner's further reliance on the Rytand patent for disclosing the claimed vent structure set forth in claims 3, 5, and 8, Applicant respectfully notes that Rytand does not disclose any form of a vent for a float unit having a buoyant core encased in concrete with a vent extending into the core to vent gases from the core to the atmosphere. As stated by the Examiner, the Rytand core is "mostly encased" and the Examiner is relying on the utility line chases of Rytand to inherently provide the venting structure. However, the bottom of Rytand is open to the atmosphere and there is no need for venting structure. Accordingly, the Examiner has again pieced together components from the prior art using the Appellant's disclosure as a template. The newly cited Robinson reference involves a plastic float drum, not a concrete shell. Also, as noted above, the underlying rejection based on Thomson, Gonzalez, and Shorter is flawed, rendering the inclusion of Rytand et al. and/or Robinson without merit.


In conclusion, it is submitted that the Examiner has engaged in impermissible hindsight reconstruction of the invention, by selectively choosing portions of the references and combining the portions of the references to provide the claimed invention without motivation from the references themselves to make the specific combination.

It is therefore respectfully requested that the rejections of Claims 1-8 be reversed and the case passed to allowance.

Respectfully submitted,

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AUGUST 31, 2005  
Date

  
Robert O. Fox, Reg. No. 34,165

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## APPENDIX

### Claims on Appeal

Claim 1. A corrosion resistant prestressed float system, comprising one or more float units, each including a buoyant core encased within a polymeric coating, concrete encasing the core and polymeric coating, a corrosion resistant mesh to reinforce the concrete, and a plurality of corrosion resistant pretensioned fiber members extending the entire length of the unit.

Claim 2. The float system of claim 1, further comprising a plurality of chaseways for receiving post tensioning members for interconnecting a plurality of the units in a desired manner.

Claim 3. The float system of claim 1, further comprising a vent extending from the core to an exterior surface of the concrete and in communication with the atmosphere for venting gases from the core to the atmosphere.

Claim 4. A corrosion resistant prestressed float unit comprising a buoyant core encased within a polymeric coating, concrete encasing the core and polymeric coating, a corrosion resistant mesh to reinforce the concrete, and a plurality of corrosion resistant pretensioned fiber members extending the entire length of the unit.

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Claim 5. The float unit of claim 4, further comprising a vent extending from the core to an exterior surface of the concrete and in communication with the atmosphere for venting gases from the core to the atmosphere.

Claim 6. A floating dock system comprising a plurality of corrosion resistant prestressed float units, wherein the float units each comprise a buoyant core encased within a polymeric coating, concrete encasing the core and polymeric coating, a corrosion resistant mesh to reinforce the concrete, and a plurality of corrosion resistant pretensioned fiber members extending the entire length of the unit.

Claim 7. The dock system of claim 6, further comprising a plurality of chaseways defined within each of the units and a plurality post tensioning members received within the chaseways for interconnecting a plurality of the units in a desired manner to provide the dock system

Claim 8. The dock system of claim 6, wherein one or more of the units includes a vent extending from the core to an exterior surface of the concrete and in communication with the atmosphere for venting gases from the core to the atmosphere.